भारतीय मानक

IS 13693 : 2023

Indian Standard

दोहरी अभिरंजक पद्धति द्वारा भुसीरहित चावल ज्ञात करना

(पहला पुनरीक्षण)

Determination of Dehusked Grains in Rice by Double Staining Method

(First Revision)

ICS 67.060

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May 2023 **Price Group 3**

Foodgrains, Allied Products and Other Agricultural Produce Sectional Committee, FAD 16

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Foodgrains, Allied Products and Other Agricultural Produce Sectional Committee had been approved by the Food and Agriculture Division Council

Dehusked grains are rice kernels, whole or broken which have more than one fourth of the surface area of the kernel covered with bran. These are also known as brown rice. In order to, determine the amount of dehusked grains in rice, the double staining method as given in this standard is being commonly used in the country.

This standard was originally published in 1993. During the course of use of the test method given in the standard, problems in interpretation of results were encountered. Therefore, through current (first) revision clarity in identification of stained grains and interpretation of results has been brought out in the procedure.

The composition of the committee responsible for the formulation of this standard is listed in Annex A.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 ‘Rules for rounding off numerical values (*second revision*)’. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

DETERMINATION OF DEHUSKED GRAINS IN RICE BY DOUBLE STAINING METHOD

(First Revision)

1 SCOPE

This standard prescribes the method for determination of dehusked grains in rice by double staining method.

2 REAGENTS

2.1 Metanil Yellow or Tartrazine — 0.05 percent in distilled water (*m/v*)

2.2 Methylene Blue — 0.05 percent in distilled water (*m/v*)

2.3 Dilute Hydrochloric Acid — 5 percent (*v/v*)

3 PROCEDURE

Take 5 g of rice (sound head rice and broken) in a petri dish of size 80 mm × 17 mm. Dip the grains in about 20 ml of methylene blue solution (0.05%) and allow to stand for about 1 min. Decant the methylene solution. Give a swirl wash with about 20 ml of dilute hydrochloric acid (5%). Give a swirl wash with water and pour about 20 ml of mentanil yellow (0.05%) solution on the blue stained grains and allow to stand for about 1 min. Decant the effluent and give a swirl wash twice with fresh water. The residual bran on the milled rice kernels will be stained green while the rest of the kernels remain yellow. Keep the stained grains under fresh water and count de-husked grains (indicated by blue-green stain over kernels, whole or broken which have more than one-fourth of the surface area stained with blue-green colour or 3 blue-green steaks longitudinally on the surface of grain). Count the total number of grains in 5 g of sample under analysis. (Three broken are to be counted as one whole grain).

4 CALCULATION

Percent of dehusked grains = $\frac{N \times 100}{W}$

where

N = number of de-husked grain in 5 g, of sample; and
W = total grains in 5 g, of sample.

ANNEX A

(*Foreword*)

COMMITTEE COMPOSITION

Foodgrains, Allied Products and Other Agricultural Produce Sectional Committee, FAD 16

Organization	*Representative*(*s*)
ICAR-Central Institute of Post-Harvest Engineering & Technology (CIPHET), Ludhiana	Dr Nachiket Kotwaliwale (***Chairperson***)
All India Food Processors Association, New Delhi	Shri Krishna Kumar Joshi Shrimati Kamia Juneja (*Alternate*)
CSIR- Central Food Technological Research Institute (CFTRI), Mysore	Dr M. S. Meera Dr V. B. Sashikala (*Alternate*)
Central Warehousing Corporation(CWC), New Delhi	Shri Sidharth Rath Dr Anurag Tripathi (*Alternate*)
Confederation of Indian Food Trade & Industry (CIFTI)-FICCI, New Delhi	Shri Kannan B. Ms Ritika (*Alternate*)
Confederation of Indian Industries (CII), New Delhi	Shri Himalaya Koul Ms Neha Aggarwal (*Alternate*)
Consumer Guidance Society of India, Mumbai	Dr Sitaram Dixit Dr M. S. Kamath (*Alternate*)
Consumer Research, Education, Action, Training and Empowerment (CREATE)	Shri K. Suresh Kanna Shri R. Ponnamalam (*Alternate*)
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Directorate of Marketing & Inspection, Faridabad	Deputy Agricultural Marketing Advisor Smo (Std) (*Alternate*)
Directorate of Plant Protection Quarantine & Storage, Faridabad	Dr Ravi Prakash Ms Sunita Pandey (*Alternate*)
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Food Safety and Standards Authority of India (FSSAI), New Delhi	Ms Aprajita Verma
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Organization	*Representative*(*s*)
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ICAR-National Rice Research Institute, Cuttack	DR B.C. PATRA DR TORIT BARAN BAGCHI (*Alternate* – I) DR SUTAPA SARKAR (*Alternate* – II)
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National Institute of Food Technology Entrepreneurship & Management (NIFTEM), Thanjavur	DR LOGANANTHAN DR M. VENKATACHALPATHY (*Alternate*)
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Roller Flour Millers Federation of India (RFMFI), New Delhi	SHRI D. V. MALHAN
Vasantdada Sugar Institute (VSI), Pune	DR RAJEEV V. DANI DR SANJEEV V. PATIL (*Alternate*)
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Member Secretary
MS LAVIKA SINGH
SCIENTIST ‘B’/ASSISTANT DIRECTOR
(FOOD AND AGRICULTURE), BIS

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